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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,378

08/31/2006

Cong Li

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EXAMINER

CHENEY, BOBAE K.

ART UNIT

PAPER NUMBER

2458

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,378	<b>Applicant(s)</b> LI ET AL.	
	<b>Examiner</b> BOBAE K. CHENEY	<b>Art Unit</b> 2458	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 10, 11, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/27/2007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Claims 10, 11, 17, and 18 are objected to because of the following informalities: Claims 10 and 17 are depended on claim 1, but the claim limitations are the same (repetitive). Claims 11 and 18 are depended on claim 10, but the claim limitations are the same (repetitive). Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 2, 8, 13, 15, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weare (Patent 7,013,238) in view of Shraim (US Publication 2007/0299915).
3. Regarding to **claim 1**, “a method, comprising: Interacting by a learning component of a server of a network with one or more clients and an environment of the network,” Weare teaches computing devices (clients) and a server connected through communication network (environment of the network) [Figure 1]. “Conducting by the learning component different trials of one or more options in different states for network communication via a protocol of the network,” Weare teaches recommendation engine providing recommendations (trials) [Column 5 Line 40 - 54]. “Utilizing by the learning component the different trials and associated resulting rewards to improve a decision-

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making policy associated with the server for negotiation of the one or more options,”

Weare teaches generating recommendations, which automatically optimizing its parameters (utilizing) by using feedback [Column 4 Line 37 – 49]. “Receiving by the learning component, performance feedback for the different trials as rewards,” Weare teaches receiving feedback, but does not expressly teach automated feedback.

However, Shraim teaches automatic feedback loop [Paragraph 132]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use automated feedback taught by Shraim in getting feedback taught by Weare for the purpose of self-tuning and providing best service without human intervention.

4. Regarding to **claim 2**, “uploading by the learning component an optimum set of options based on the different trials and rewards and observed configurations of the environment associated with the optimum set of options to a centralized place,” Weare teaches parameter controller uses the feedback to adjust the parameters and sends the adjusted parameters to the affinity predictor where determining recommendations [Column 5 Line 40 – 67].

5. **Claims 8 and 15** are similar to claim 1. Therefore, claims 8 and 15 are rejected under the similar ground.

6. **Claims 13 and 20** are similar to claim 2. Therefore, claims 13 and 20 are rejected under the similar ground.

7. **Claims 3 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weare and Shraim as applied to claim 2 above, and further in view of Stakutis (US Publication 2005/0251516).

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8. Regarding to **claim 3**, "wherein one or more other servers download from the centralized place the optimum set of options to utilize as an initial point to start a new learning process in the environment of the one or more other servers," Weare teaches using feedback to adjust the parameters and sending the adjusted parameters (optimum set of options) to the affinity predictor where they are used at the beginning of the cycle for determining recommendations [Column 5 Line 40 – 67]. Weare does not expressly teach one or more other servers download from the centralized place the optimum set of options. However, Stakutis teaches central pool of storage (centralized place) shared in multiple nodes (server) [Figure 1, Paragraph 39]. It would have been obvious to one of ordinary skill in the art at the time of the invention to share in multiple nodes taught by Stakutis adjusted parameters taught by Weare for the purpose of provide information without adding more hardware when additional server is added. By using central server, cost of adding additional server in the network since the server does not need separate storage for information.

9. **Claim 14** is similar to claim 3. Therefore, claim 14 is rejected under the similar ground.

10. **Claims 4 – 6, 9 – 11, and 16 – 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weare and Shraim as applied to claim 1 above, and further in view of Young (US Publication 2003/0074338).

11. Regarding to **claim 4**, Weare teaches option negotiation, but does not expressly teach "wherein the option negotiation component applies a reinforcement learning algorithm to improve the decision-making policy associated with the server for

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negotiation of the one or more options.” However, Young teaches using reinforcement learning algorithm [Paragraph 4, 5]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use reinforcement learning algorithm taught by Young in option negotiation taught by Weare for the purpose of to optimize performance and improve the system in long term operation without involvement of human.

12. Regarding to **claim 5**, “wherein the reinforcement algorithm utilizes a Q-learning method,” Young teaches applying Q-learning algorithm to implement the reinforcement learning [Paragraph 6].

13. Regarding to **claim 6**, “wherein the Q-learning algorithm iteratively calculates value functions of an optimal policy for option selection by the option negotiation component,” Young teaches using value function to find solutions [Paragraph 7].

14. **Claims 9 and 16** are similar to claim 4. Therefore, claims 9 and 16 are rejected under the similar ground.

15. **Claims 10 and 17** are similar to claim 5. Therefore, claims 10 and 17 are rejected under the similar ground.

16. **Claims 11 and 18** are similar to claim 6. Therefore, claims 11 and 17 are rejected under the similar ground.

17. **Claims 7, 12, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weare and Shraim as applied to claim 1 above, and further in view of Zhu (US Publication 2006/0274899).

18. Regarding to **claim 7**, Weare teaches option negotiation component, but does not expressly teach “wherein the option negotiation component is part of a trivial file

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transfer protocol (TFTP) server." However, Zhu teaches TFTP server providing management functions [Paragraph 7]. It would have been obvious to one of ordinary skill in the art at the time of the invention to have option negotiation component taught by Weare in TFTP server taught by Zhu for the purpose of providing a simple, predetermined content and small capacity of file transferring service.

19. **Claims 12 and 19** are similar to claim 7. Therefore, claims 12 and 19 are rejected under the similar ground.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBAE K. CHENEY whose telephone number is (571)270-7641. The examiner can normally be reached on Monday - Thursday 7:30 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Avellino can be reached on (571)272-3905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BOBAE K CHENEY  
Examiner  
Art Unit 2458

/BOBAE K CHENEY/  
Examiner, Art Unit 2458

/Joseph E. Avellino/  
Supervisory Patent Examiner, Art Unit 2458